

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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COUNTRY	USSR (Voronezh Oblast)	REPORT	
SUBJECT	Aviation Plant i/n Stalin and the Excavator Plant i/n Komintern in Voronezh	DATE DISTR.	5 August 1960
		NO. PAGES	1

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DATE OF INFO.
PLACE & DATE ACQ.

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

Attachment 1 is a seven-page report on the Aviation Plant i/n Stalin /probably the Aircraft Engine Plant No. 154/ in Voronezh. The report contains information on the production, organization, machine shops and plant personalities up to October 1956. A sketch of the Aviation Plant layout accompanies the report.

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Attachment 2 is a five-page report on the Excavator Plant i/n Komintern in Voronezh the main buildings and activities in the plant as well as the location of a secret section within the instrument shop. also includes information on plant location, organization, personalities and production. The report does not include a sketch of the plant area.

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(Note: Washington distribution indicated by "X"; Field distribution by "#".)

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COUNTRY: USSR (Voronezhskaya oblast)

REPORT

SUBJECT: Aviation Plant i/n Stalin in
Voronezh

DATE C

DATE A

DATE OF REPORT: 18 May 1960

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AVIATION PLANT I/N STALIN IN VORONEZH

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1.

This plant and residential buildings for plant employees were constructed by German PW's in 1945-1948. [redacted] the plant numerical designation (unknown) was no longer used in 1954. The plant, which was subordinate to the Ministry of Aviation Industry, was located in the north-western part of Voronezh about four kilometers west of the main railroad station. [redacted]

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Production

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2. The plant produced M-11 conventional engines for PO-2 aircraft, (Polikarpov) a two seater biplane, and for Ut-2 (Uchebnyy-trenirovochnyy) trainers. The five-cylinder, radial M-11 engine which weighed about 120 kilograms (four men could lift it easily) was about 1.30 meters in diameter, and one and one-half meters in length. [redacted]

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[redacted] the engines were produced only for PO-2 and Ut-2 aircraft. The plant also produced small parts [redacted] for tractors and agricultural machinery, on special orders for other, unknown, plants. The parts, such as bushings, wheel parts, gear parts, etc., came from the foundry and were machined according

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to specifications. The tolerance for most parts was 0.1 (1/10) to 0.3 (3/10) millimeters.

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3. [redacted] the plant had no other production, such as consumer goods. [redacted]
[redacted] M-11 engines had been manufactured ever since the plant became operative.

Organization and Personnel

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4. The plant employed about 2,000 workers. [redacted]
[redacted]
5. The plant organization was headed by a director, a chief engineer who also was deputy director for production, and a deputy director for administration who supervised railroad traffic, trucking, maintenance of fire-fighting equipment, the guard force, the polyclinic, the library, the plant commissaries, the club, the theater, the char force, etc. Subordinate to the chief engineer were a supply chief in charge of new machinery, instruments, incoming raw materials, outgoing production, and storage, and a production chief. Subordinate to the production chief were the construction offices which were staffed by a chief constructor, and four or five constructors; the technological offices, staffed by one chief technologist and six technologists; and the laboratory which employed four or five chemists.
6. The plant shops [redacted] were the machine shop, the instrument sub-section, the assembly shop, the testing shop, the carpentry shop, the foundry, and the galvanizing shop. Each shop had its own engineers, technologists, technicians, and OTK personnel. [redacted] the OTK section was directly subordinate to the Aviation Industry Ministry, and not to the plant director.

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Shop Activities

7. [redacted] The machine shop employed about 500 workers, of whom about 350 worked on the first shift and 150 on the second. This shop had milling, polishing, boring, drilling, and planing machines, and lathes. [redacted] the machine shop had about 200 machines, most of which were of German make, type "Magdeburg" and/or "Kerner". The lathes were Soviet make "DIP". About half of the machines were semi-automatic, and the rest were mechanical. The instrument shop, which was a sub-section of the machine shop, contained three lathes, two or three milling machines, one planing machine, one gear cutting

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machine, and one grinding-polishing machine. The assembly shop employed a total of about 100 workers with about 50 assigned to each of the two shifts. The assembly shop had no machinery, only machinists' benches. There were no cranes and four men lifted each M-11 engine from one stand to the next. The finished engines were tested in the assembly shop, and packed in wooden cases made in the carpentry shop.

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8. The technologists received blueprints on component parts of the M-11 engine and designated with which machines these parts were to be processed, also whether the parts were to be cast in the foundry, or machined.

Raw Materials

9. The plant received steel and aluminum in sheets (one and one-half by one meter in size and one and one-half millimeter thick), cast iron, black paint for the engine cylinders, alcohol, gasoline, oil, coal, lumber, and special instruments.

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Working Conditions

10. The plant fulfilled its norm by 120-130 percent. The machine shop was clean, ventilated, and had sufficient light. The instrument sub-section (and probably the entire machine shop) was always kept at a temperature of 20 degrees centigrade, in order to prevent expansion or shrinkage of parts. Although most of the machines were old, they were in good condition.

11. The plant operated on two shifts only, the first from 0800 to 1700 hours with one-half hour off for lunch, and the second from 1700 to 0100 hours with one-half hour off for supper. The office and administrative personnel worked from 0900-1800 hours with a one-hour lunch period.

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Security

12. All personnel employed in the aviation plant were permitted to enter only their own shops or offices. There were armed male guards stationed in front of all shop entrances.

Plant Personalities

13. Morozov (fnu) was the plant director. the director frequently went on official business trips to Moscow. The chief technologist was Kiselev (fnu)

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Plant Description

14. The plant area was about 700 x 300 meters in dimension. See page 7, for [] sketch of the plant layout, for which the following legend identifies numerical designations:

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- Point 1. Workers settlement (poselok). This was an area about 700 x 700 meters in dimension, containing an unknown number of one-story, red brick buildings about 10 meters square. Each house was assigned to a family, and only employees of the Aviation Plant were permitted to live there.
- Point 2. Fence. This was a wooden fence, about two and one-half meters in height, which bordered the northern side of the plant area only. (The other three sides had brick or stone walls, described as points 12 and 16 below).
- Point 3. Gate. This was an entrance for those employees who lived in the settlement (point 1 above). There was only one gate, guarded by a woman in a black uniform, armed with a revolver (make unknown). She kept the plant passes of settlement personnel, issuing them as the workers arrived and collecting the passes when the workers left the plant area.
- Point 4. Plant road. This was an asphalt paved street leading from the truck entrance (point 13 below) to the gate described as point 3 above. It was about three meters in width.
- Point 5. Galvanizing shop. This was a one-story red brick and stucco building, about 200 meters square with a gray tin roof. A chimney protruded about one meter above the roof, and yellow smoke rose from the chimney. []

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- Point 6. Machine shop. This was a two-story buff brick building about 150 meters square. On the first floor were the machine shop, instrument shop, carpenter shop, and assembly shop. On the second floor were administration offices for the director, constructors, engineers, technologists/technicians, draftsmen, and bookkeepers. Also, on the second floor were the Party organization offices, the Profsoyuz office, a library, a first aid station, and lounges.

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- Point 7. Railroad gate. The railroad which serviced the plant was of standard Soviet width.
- Point 8. Warehouses and loading platforms.
- Point 9. Foundry. This was a two-story buff brick building about 150 meters square (no details).
- Point 10. Garage. This was a one-story red brick building, about 10 x 5 meters in area dimension, which housed two or three three-ton ZIS trucks.
- Point 11. Fire station. This was a one-story red brick building about 10 x 5 meters in area dimension, adjacent to the machine shop (point 6 above). The fire station was equipped with one fire engine and had alert rooms for about 10 firemen.
- Point 12. Fence. This was a red brick wall, about two and one-half meters in height, which bordered the western and eastern sides of the plant area.
- Point 13. Railroad line. This was a spur line of standard Soviet gauge, servicing the aviation plant.
- Point 14. Vehicular entrance. This entrance was guarded by one sentry in a blue uniform, armed with a revolver, who checked the contents of trucks entering or leaving the plant.
- Point 15. Personnel entrance. This gate had seven or eight entrances for personnel.
- Point 16. Wall. This was a stone wall about two and one-half meters in height along the southern side of the plant.
- Point 17. Street. This was a west-east road in Voronezh, name unrecalled. It was asphalt paved and about five meters in width. It had one track for streetcar line #8, whose terminal was near the plant.
- Point 18. Vacant space. This was an empty area, about 400 meters square.
- Point 19. Restaurant. This was a one-story, red stuccoed brick building, about 25 x 10 meters in area dimension with a gray tin roof. It was open to all, but most of the patrons were plant employees. The restaurant's seating capacity was about 120.

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- Point 20. Plant park. This was an area about 200 x 150 meters in dimension.
- Point 21. Plant club. This was a one-story red brick building, about 20 meters square with a gray tin roof. It contained a large meeting room which also served for showing movies and as a theater.
- Point 22. Residential building. This was a five or six-story red brick building about 100 x 10 meters in area dimension with a gray tin roof. It was constructed in 1955 for plant employees only.
- Point 23. Residential building. This was a four or five-story, red brick building, about 100 meters x 10 meters in area dimension with a gray tin roof. It was for plant employees only, and had been constructed by German PW's. On the ground floor there was a plant polyclinic staffed by eight or ten physicians and eight or ten nurses.
- Point 24. Residential building. This was a building identical to the one described in point 23 above, also built by German PW's. On the ground floor were various food, produce and meat shops (for plant employees only).

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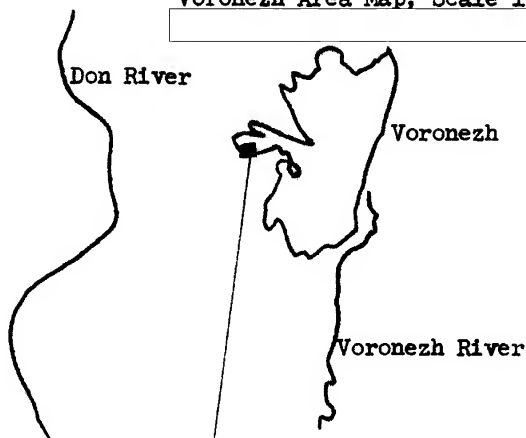
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Pinpoint Location of the Aviation Plant i/n Stalin
Voronezh Area Map, Scale 1:100,000

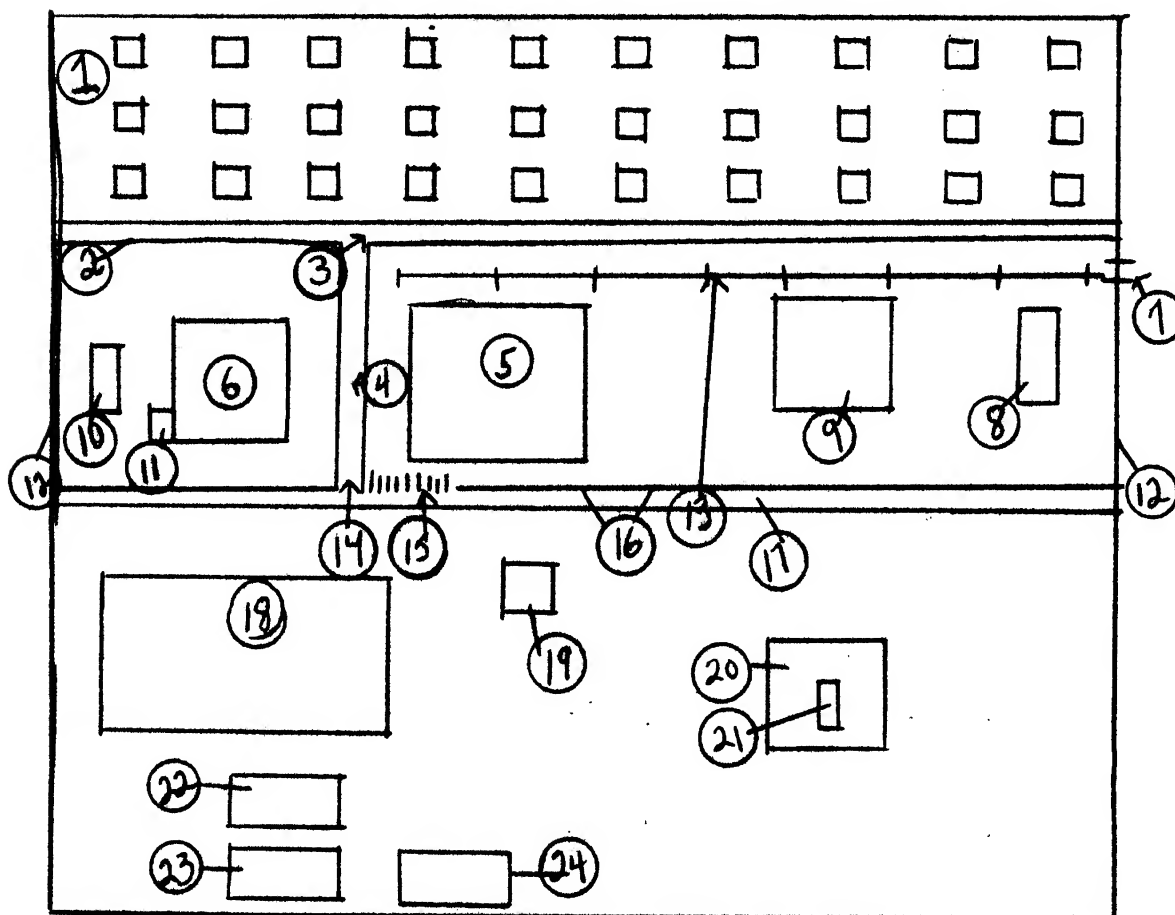


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Sketch of the Aviation Plant Layout



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COUNTRY: USSR (Voronezhskaya oblast)

REPORT

SUBJECT: Voronezh Excavator Plant
i/n Komintern

DATE OF

DATE A

DATE OF REPORT: 13 May 1960

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VORONEZH EXCAVATOR PLANT I/N KOMINTERN

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1. [redacted] the Voronezh Excavator Plant i/n Komintern (Voronezhskiy ekskavatornyy zavod imeni Komintern), located in the northwestern part of Voronezh at 122 Plekhanovskaya ulitsa. [redacted] engaged in the manufacture of component parts for excavators, and excavator tracks. The plant had been in existence prior to 1917 and in 1953 its subordination was changed from that of the Ministry of Construction and Road Machine Building to that of the Ministry of Heavy Machine Building.
2. The plant occupied an area one to one and one-half kilometers x 400-500 meters in dimension, surrounded by a stone wall two to two and one-half meters in height. The plant had one main gate with about ten entrances for personnel, one gate for trucks, and one gate for a standard gauge railroad spur, which led behind the machine and assembly shops to the foundry. The gates were guarded by men and women in a dark blue uniforms, who were armed with revolvers. The guards at the personnel entrance issued passes to the entering work force, and picked up the passes of personnel leaving the plant. The passes, which were retained by the employees during work hours, permitted access to the entire plant with the exception of one section of the instrument shop (see below). This section was called the "secret section".

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3. The plant buildings consisted of: the machine assembly building, a one-story red brick and stucco building, about 200 x 150 meters in area dimension with a gray tin roof, which contained the machine shop, the assembly shop, instrument stock rooms and material storage areas; the mechanical repair shop, a one-story white brick building 100-150 meters x 40-50 meters in area dimension, with a gray tin roof; the foundry, a one-story red brick and stucco building about 200 x 150 meters in area dimension, with a gray tin roof; and the instrument shop, a two-story red brick and stucco building, 100-150 x 40-50 meters in area dimension with a gray tin roof. On the first floor of the latter building were the instrument shop with a thermal sub-section, and a 'secret' area for storage and distribution of machine component parts produced for special "government orders".

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On the second floor of the instrument shop building were administrative, construction, and bookkeeping offices, and offices for the Party organizer and Profsoyuz. The plant layout also included a forge shop, a one-story red brick and stucco building about 200x150 meters in area dimension, with a gray tin roof; a garage, a one-story red brick building about 20 x 10 meters in area dimension with parking space for about 10 ZIS trucks; a restaurant, located in a one-story red brick building about 40 x 40 meters in area dimension, which accommodated about 250 people at one sitting; and a testing area which was an oval-shaped open area, with a maximum diameter of about 25 meters, where finished excavators were given a test-run prior to shipment from the plant.

Production

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4. Prior to WW II the plant manufactured various agricultural machines. from 1946 until 1954, the plant produced finished excavators, and certain unidentified parts for "government orders". The excavators consisted of three sections: the cabin, the tracks, and the shovel. The cabin and tracks together were four to four and one-half meters in length, three meters in height, and two meters in width. The shovel was four to five meters in length and four to five meters in height. The weight of a complete excavator was 40 tons. Most of the excavators were powered by diesel engines, however some models had electric motors. The capacity of the shovel was one cubic meter. The tracks had two large wheels and four small rollers. These excavators, used for construction purposes, had been manufactured at the plant since 1946. The plant also produced various small machined parts for other shops. Drawings for these parts (bushings, etc.) were received from the Ministry offices, and when these parts were finished, they were sent to the secret section, from where they were shipped to an unknown destination. the production of parts not for use in the manufacture of excavators was about three percent of the total plant output

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5. [redacted] the plant assembled and produced about one and one-half excavators every 24 hours, or 30-40 excavators monthly. [redacted] the excavators cost about 50X1-HUM 1,000,000 rubles. The excavators were shipped uncrated to all cities of the USSR, to Poland, Hungary and China. To facilitate shipment, the excavators were broken down into three principal sections, (the shovel, cabin, and tracks) which were loaded onto rail cars separately.

Shops and Machinery

6. The machine shop employed about 900 workers of whom approximately 500 were assigned to the first shift, 250 to the second, and 150 to the third. The shop had an unknown number of lathes, milling, drilling, boring, polishing, gear cutting, and planing machines, and radial drilling machines. Most of the machines were of Soviet make. [redacted] there were three 50X1-HUM vertical turning and boring lathes [redacted] and four-five fully automatic milling machines of Czech make, type "Skoda". The shop was divided into four sections, two for processing small parts and two for machining large parts. [redacted] 50X1-HUM [redacted] ten lathe operators, eight turret lathe operators, four millers, two drillers, four polishers, three porters, one machinist, and one OTK checker [redacted] This group operated the following machinery: one large German-make fully automatic lathe, type unknown; eight turret semi-automatic lathes, Soviet make, type "Ordzhonikidze; ten semi-automatic lathes, Soviet make, type DIP-200; four polishing machines, Soviet make, type unknown; four milling machines, fully automatic, Soviet make, type "Ordzhonikidze"; and two drilling machines, Soviet make, type unknown. The machine shop received forged, stamped or cast parts in rough form, and machined them to specifications, with tolerances of 0.3 to 0.5 millimeters. Parts produced were: drive gears, axles, crankshafts, bushings, tracks, wheels, rollers, cabin parts, shovel parts, nuts, bolts, washers, pins, screws, etc. This shop also produced parts for other shops (as stated above), later use unknown [redacted] 50X1-HUM
7. The assembly shop employed about 100 men in three shifts (most of whom worked during the first shift). Here the component excavator parts were assembled into a complete excavator, ready for testing. The assembly shop contained about 20 electric welding machines, 15-20 machinists' tables, and two overhead cranes. There was also a testing section which tested the finished excavators.
8. The mechanical repair shop employed about 250 men, who worked oneshift only. This section performed periodic overhauls, maintenance, and repair of machinery, and was responsible for plant building maintenance. This shop also assembled the excavator cabins, which were later sent to the assembly shop.

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- [REDACTED]
9. The foundry employed about 300 men who worked on one shift only. The foundry had two open hearth [REDACTED] furnaces and one electric furnace. 50X1-HUM The forge shop employed about 150 men in two shifts, most of whom worked during the first shift. The shop had 25-30 forge hammers, and an unknown number of presses.
10. The instrument shop employed about 150 men who worked one shift only. This shop contained mostly lathes and polishing machines.

Raw Materials

11. The plant received rolled iron and steel sheets, iron in bars and round pieces from unknown sources. The motors for the excavators were supplied by the Kharkov Tractor Plant. Seats for the cabin were received from an unknown plant. Steel cables for the shovel (origin unknown) were made of "Stalinite" type steel.

Working Conditions

12. The plant fulfilled its norm by 110-130 percent. In order to fulfill the norm, the work pace was intensive during the last few days of each month, followed by a slackening at the beginning of the next month. The machinery was kept in good condition by the workers and the repair crews. Most machines were semi-automatic, and the milling machines were fully automatic. The shops were airy, well ventilated in summer, warm in winter, and had sufficient light. [REDACTED] a foreman, earned in salary and bonus a total of 1,200 rubles monthly, of which about 200 rubles were deducted for taxes. The average worker earned a total of about 800 rubles monthly, of which about 100-150 rubles were deducted for taxes. 50X1-HUM

Personnel and Organization

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13. The plant director, an engineers, was Viktor Pavlovich Chernogubovskiy [REDACTED]
- [REDACTED]

14. The plant employed 2,500-3,000 workers in three shifts, of whom about 50 percent were assigned to the first shift, 30 percent to the second, and 20 percent to the third. The plant organization included the director, a chief engineer-deputy director, and a deputy for housekeeping. Subordinate to the chief engineer were: the chief of production, and the chief of materials and supply. The production chief supervised the construction offices (about 20 engineers), technological offices (about 25-30 engineers, technicians, technologists,

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draftsmen), the laboratory (10-15 technicians), the machine shop, the assembly shop, the mechanical repair shop, the foundry, the instrument shop, the forge shop, the testing section, and the thermal section. Subordinate to the deputy for housekeeping were: the garage, the messhall, a first aid station, the guard force, the plant firemen, the char force and cleaning supply rooms, The chief of materials and supply supervised offices dealing with incoming raw materials, stockrooms, storage, outgoing production, etc.

The plant also had a staff of OTK personnel, who were directly subordinate to the Ministry.

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